Commonwealth of Virginia

Syndromic Surveillance Submission Guide:

Ambulatory Data

HL7 version 2.5.1

Prepared by:

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VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Introduction

Virginia Department of Health (VDH) compiled this guide for eligible professionals that practice in ambulatory care or outpatient settings who wish to demonstrate meaningful use of certified electronic health record technology by the submission of syndromic surveillance data. The information in this implementation guide is based on the *Electronic Syndromic Surveillance Using Hospital Inpatient and Ambulatory Clinical Care Electronic Health Record Data: Recommendations from the ISDS Meaningful Use Workgroup* (September 2012). **These recommendations have not yet been translated into a formal message guide establishing nation standards so information presented in this document is subject to change.** The HL7 2.5.1 data elements requested by VDH for syndromic surveillance submission are listed below by message segment.

Please note that not all the information presented in the *Electronic Syndromic Surveillance Using Hospital Inpatient and Ambulatory Clinical Care Electronic Health Record Data: Recommendations from the ISDS Meaningful Use Workgroup* is replicated in this document. VDH compiled this guide to assist ambulatory care and outpatient facilities with understanding what data elements an HL7 2.5.1 message should contain for syndromic surveillance submission in Virginia. Please refer to *Electronic Syndromic Surveillance Using Hospital Inpatient and Ambulatory Clinical Care Electronic Health Record Data: Recommendations from the ISDS Meaningful Use Workgroup* for additional information.

Useful Resources

Electronic Syndromic Surveillance Using Hospital Inpatient and Ambulatory Clinical Care Electronic Health Record Data: Recommendations from the ISDS Meaningful Use Workgroup - http://www.syndromic.org/storage/ISDS_2012-MUse-Recommendations.pdf

PHIN VADS value sets for syndromic surveillance date elements- http://phinvads.cdc.gov/vads/ViewView.action?name=Syndromic Surveillance

Virginia Department of Health Meaningful Use website- http://www.vdh.state.va.us/clinicians/meaningfuluse/

Syndromic Surveillance in Virginia

Syndromic surveillance is near real-time surveillance that tracks chief complaints of patients who present to health care settings and allows public health officials to monitor trends and investigate unusual increases in symptom presentations. The purpose of syndromic surveillance is to improve the health of a community through earlier detection of emerging public health events**.** VDH uses a syndromic surveillance system called Electronic Surveillance System for the Early Notification of Community-based Epidemics, also known as ESSENCE. ESSENCE provides near real-time situational awareness of potential public health threats and emergencies by alerting VDH epidemiologists when unusual increases in symptom presentations are detected in the community.

Data Submission Parameters

- Syndromic surveillance data can be submitted to VDH by either batched or real-time messages. Real-time messages are preferred.
- If batching is selected, messages should be sent at 6 hour intervals no later than the following times: 2am, 8am, 2pm, and 8pm EST.
- Preferred transport mechanism is HTTPS but other options are supported.
- Facilities should submit **all visits** seen at the practice with no filtering done prior to submission to VDH.

Supported ADT Message Types

Four message transactions types can be accepted for syndromic surveillance submission:

ADT^A04 (Registration) – A patient has arrived or checked in as a one-time, or recurring, outpatient and is not assigned to a location.

ADT^A01 (Admit/Visit Notification) **–** A patient undergoes the admission process and is assigned to a location.

ADT^A08 (Patient Information Update) – Patient information has changed but no other trigger event has occurred.

ADT^A03 (Discharge) – A patient's stay in a healthcare facility has ended and their status is changed to discharged.

Supported ADT Message Format

HL7 version 2.5.1 is the required message format for Stage 2 of Meaningful Use.

Required Message Segments

The message segments that are requested for syndromic surveillance submission are the same for each message transaction type.

R = Required to be sent
RE = Required to be sent but can be empty if information is not available

Segment	ADT^A04	ADT^A01	ADT^A08	ADT^A03
Message Header (MSH)	R	R	R	R
Event Type (EVN)	R	R	R	R
Patient Identification (PID)	R	R	R	R
Patient Visit (PV1)	R	R	R	R
Observation/Result (OBX)	R	R	R	R
Diagnosis (DG1)	RE	RE	RE	RE

Data Element Specifications

The tables below outline the data elements by message segment that are requested for syndromic surveillance submission.

MESSAGE HEADER SEGMENT (MSH)					
Field Name	**Seq**	**DT**	**Length**	**Sender Usage**	**Notes/Value Set**
Field Separator	1	ST	1	R	Default value "|"
Encoding Characters	2	ST	4	R	Default values "^~\&"
Sending Facility	4	HD	27	R	Field that uniquely identifies the facility associated with the application that sends the message. If Acknowledgements are in use, this facility will receive any related Acknowledgement message.
Namespace ID	4.1	IS	20	R	Name of the sending facility. Use full name of sending facility, no codes or abbreviations will be accepted.
Universal ID	4.2	ST	199	R	National Provider Identifier (10 digit identifier).
Universal ID Type	4.3	ID	6	R	Literal value: "NPI"
Receiving Application	5	HD	227	O	Literal value: "SYNDSURV"
Receiving Facility	6	HD	227	O	
Namespace ID	6.1	IS	20	O	Literal value: "VDH"
Universal ID	6.2	ST	199	O	Literal value: "2.16.840.1.114222.4.1.184"
Universal ID Type	6.3	ID	6	O	Literal value: "ISO"
Date/Time of Message	7	TS	26	R	Date/Time the sending system created the message in the following format: *YYYYMMDDHHMM*
Message Type	9	MSG	15	R	All messages will be Admit-Discharge-Transfer (ADT) message types. The triggering event is a real-world circumstance causing the message to be sent. Supported trigger events are A04 (Registration), A01 (Admission), A08 (Update), and A03 (Discharge).

Message Code	9.1	ID	3	R	Literal value: “ADT” or “ACK”
Trigger Event	9.2	ID	3	R	One of the following literal values: “A01”, “A03”, “A04”, or “A08”
Message Structure	9.3	ID	7	R	Trigger events A01, A04 and A08 share the same “ADT_A01” Message structure. One of the following literal values: “ADT_A01” or “ADT_A03”, or “ACK”
Message Control ID	10	ST	199	R	A number or other identifier that uniquely identifies the message.
Processing ID	11	PT	3	R	Indicates how to process the message. Literal values: “P” for Production or “D” for Debugging
Version ID	12	VID	5	R	Literal value: “2.5.1”
Message Profile Identifier	21	EI	427	O	PH_SS-Ack^SS Sender^2.16.840.1.114222.4.10.3^ISO or PH_SS-Ack^SSReceiver^2.16.840.1.114222.4.10.3^ISO PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO or PH_SS-NoAck^SSReceiver^2.16.840.1.114222.4.10.3^ISO

EVENT TYPE SEGMENT (EVN)					
Field Name	**Seq**	**DT**	**Length**	**Sender Usage**	**Notes/Value Set**
Recorded Date/Time	2	TS	26	R	Most systems default to the system Date/Time when the transaction was entered. Format: *YYYYMMDDHHMM*
Event Facility	7	HD	241	R	Location where the patient was actually treated.
Namespace ID	7.1	IS	20	R	Full name of facility where patient presented for treatment. No codes or abbreviations will be accepted.
Universal ID	7.2	ST	1999	R	National Provider Identifier (10 digit identifier).
Universal ID Type	7.3	ID	6	R	Literal value: “NPI”

PATIENT IDENTIFICATION SEGMENT (PID)					
Field Name	**Seq**	**DT**	**Length**	**Sender Usage**	**Notes/Value Set**
Patient Identifier List	3	CX	478	R	PID.3 is a repeating field that can accommodate multiple patient identifiers**.** Patient's unique identifier(s) from the facility that is submitting this report to public health. Different jurisdictions use different identifiers and may often use a combination of identifiers to produce a unique patient identifier. Patient identifiers should be strong enough to remain a unique identifier across different data provider models, such as a networked data provider or State HIE.
ID Number	3.1	ST	15	R	Use patient medical record (MR) number or equivalent such as master person index (MPI) identifier. The identifier provided should allow the facility to retrieve information on the patient if additional information is requested by VDH.
Identifier Type Code	3.5	ID	5	R	*Value Set:* Identifier Type (Syndromic Surveillance) Use the Identifier Type Code that corresponds to the type of ID Number specified in PID-3.1. For Medical Record Number, use literal value "MR".
Patient Name	5	XPN	294	R	Patient name should not be sent. The patient name field must still be populated even when reporting de-identified data.
Name Type Code	5.7	ID	1	R	When the name of the patient is known, but not being sent, HL7 recommends the following: |~^^^^^^S|. The "S" for the name type code (PID-5.7) in the second name field indicates that it is a pseudonym.
Date/Time of Birth	7	TS	26	RE	Format: *YYYYMMDD*
Administrative Sex	8	IS	1	RE	Value Set: *Administrative Sex (HL7)*
Race	10	CE	478	RE	Value Set: *Race Category (CDC)* Race should be submitted if known. Patient could have more than one race defined.
Identifier	10.1	ST	20	RE	Standardized code for patient race category.
Text	10.2	ST	199	RE	Standardized text description that corresponds with code in PID-10.1.

Name of Coding System	10.3	ID	20	CE	Literal value: “CDCREC”
Patient Address	11	XAD	513	RE	Expecting the primary residence of the patient and not the billing address.
ZIP or Postal Code	11.5	ST	12	RE	5-digit zip code of patient’s residence
County/Parish Code	11.9	IS	20	RE	County/independent city FIPS code of patient’s residence.
Ethnic Group	22	CE	478	RE	Value set: *Ethnicity Group (CDC)* Ethnicity should be submitted if known.
Identifier	22.1	ST	20	RE	Standardized code for patient ethnicity category.
Text	22.2	ST	199	RE	Standardized text description that corresponds with code in PID-22.1.
Name of Coding System	22.3	ID	20	CE	Literal value: “CDCREC”

PATIENT VISIT SEGMENT (PV1)					
Field Name	**Seq**	**DT**	**Length**	**Sender Usage**	**Notes/Value Set**
Patient Class	2	IS	1	RE	Literal values: “O” for outpatient visits to urgent care facility.
Visit Number	19	CX	478	R	
ID Number	19.1	ST	15	R	Unique identifier for a patient visit.
Identifier Type Code	19.5	ID	227	R	Literal value: “VN”
Discharge Disposition	36	IS	3	RE	Value set: *Discharge Disposition (HL7)* Should be sent upon patient’s departure from facility (A03). Disposition provides the outcome of patient’s visit (i.e. Discharged to home, Expired, Admitted as inpatient).
Admit Date/Time	44	TS	26	R	Date and time the patient presented to facility for treatment. Format: *YYYYMMDD*

OBSERVATION/RESULT SEGMENT (OBX)					
Field Name	**Seq**	**DT**	**Length**	**Sender Usage**	**Notes/Value Set**
Value Type	2	ID	3	R	Literal value: “CWE”
Chief Complaint	3	CWE	478	R	Description of the patient’s self-reported chief complaint or reason for visit.
Identifier	3.1	ST	20	R	Literal value: “8661-1”
Text	3.2	ST	199	R	Literal value: “Chief complaint:Find:Pt:Patient:Nom:Reported”
Name of Coding System	3.3	ID	20	R	Literal value: “LN”
Chief Complaint Text	5.9	ST	199	R	**Free text describing the chief complaint or reason for visits should be used.** If multiple fields such as chief complaint, reason for visit, and clinical impression are available these should be concatenated into a single field.

DIAGNOSIS SEGMENT (DG1)					
Field Name	**Seq**	**DT**	**Length**	**Sender Usage**	**Notes/Value Set**
Diagnosis Code	3	CE	478	R	Should be sent upon patient’s departure from emergency department or urgent care facility. Values from standards code sets: ICD-9, ICD-10, or SNOMED.
Identifier	3.1	ST	20	R	Standardized code value for diagnosis.
Text	3.2	ST	199	R	Standardized text description that corresponds to the code provided in 3.1.
Name of Coding System	3.3	ID	20	C	Literal values: “I9CDX”, “I10”, or “SCT”
Diagnosis Type	6	IS	2	R	Literal values: “A” for Admitting diagnosis, “W” for Working diagnosis, or “F” for Final diagnosis.

A04 Message Example –Visit for Patient X at an ambulatory care practice is initiated

MSH|^~\&||HOSPITALNAME^999999999^NPI|SYNDSURV|VDH^2.16.840.1.114222.4.1.184^ISO|201203300000||ADT^A04^ADT_A01|1234567890|D|2.5.1
EVN||201203270000|||||HOSPITALNAME^1111111111^NPI
PID|1||9999000000^^^^MR||~^^^^^^S||19700115|M||2106-3^White^CDCREC|^^^^20105||||||||||2186-5^Not Hispanic or Latino^CDCREC
PV1||E|||||||||||||||2222000068^^^^VN|||||||||||||||||||||||201203270000
OBX|1|CWE|8661-1^Chief complaint:Find:Pt:Patient:Nom:Reported^LN||^^^^^^^^Headache Fell Down Hit Head||||||F

A03 Message Example – Visit for Patient X at an ambulatory care practice has ended

The additional information included in the A03 message compared to the previous A04 message is highlighted.

MSH|^~\&||HOSPITALNAME^999999999^NPI|SYNDSURV|VDH^2.16.840.1.114222.4.1.184^ISO|201203300000||ADT^A03^ADT_A03|1234567890|D|2.5.1
EVN||201203270000|||||HOSPITAL NAME^1111111111^NPI
PID|1||9999000000^^^^MR||~^^^^^^S||19700115|M||2106-3^White^CDCREC|^^^^20105||||||||||2186-5^Not Hispanic or Latino^CDCREC
PV1||E|||||||||||||||2222000068^^^^VN|||||||||||||||||01|||||||201203270000
OBX|1|CWE|8661-1^Chief complaint:Find:Pt:Patient:Nom:Reported^LN||^^^^^^^^Headache Fell Down Hit Head||||||F
DG1|1||959.01^HEAD INJURY NOS^I9CDX|||A
DG1|2||959.01^HEAD INJURY NOS^I9CDX|||F

****Please note: Subsequent ADT messages should contain all fields submitted in previous messages for a single visit with the addition of any updated fields. Notice in the examples above, the A03 message contains every field previously submitted in the A04 message with additional fields relevant to discharge****

Questions about syndromic surveillance submission to Virginia Department of Health, please contact:

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